ALD on polymers literature review

Compatibility of 3D-Printable Polymers with Atomic Layer Deposition

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Principles of ALD


Thermal ALD


Plasma- or radical-enhanced ALD


Spatial ALD

ALD of Al2O3


ALD equipment

3D printable polymers

Additive manufacturing (AM)


Stereolithography (SLA)


Selective laser sintering (SLS)


Fused filament fabrication (FFF)

Polymers in ALD


Principles of ALD on polymers


Applications of ALD-coated polymers

- Yang, Y.Q et al. Realization of thin film encapsulation by atomic layer deposition of Al2O3 at low temperature. The journal of physical chemistry. Volume 117, 2013, iss. 39, pp. 20308.

Challenges

Future applications

Spatial ALD for flexible electronics


Functionalization of polymers with ALD


3D printed reactor for ALD

- Plastic2Print. 1.75mm FEP Natural filament 0.75kg. Available online: https://www.plastic2print.com/175mm-fep-filament-0-75kg.html. Cited 3.3.2018.
References


34. Xiao, X et al. Durable superhydrophobic wool fabrics coating with nanoscale Al2O3 layer by atomic layer deposition. Volume 349, 2015, pp. 876-879.


50. Plastic2Print. 1.75mm FEP Natural filament 0.75kg. Available online: https://www.plastic2print.com/175mm-fep-filament-0-75kg.html. Cited 3.3.2018.